recent writer on the subject notes[1] that: "Birds, chiefly the woodpeckers, are the most important of the predatory enemies. It is not uncommon to find infested trees where these birds have removed from one-half to two-thirds of the larvae and adults during a single winter."

Semitropical Army Worm (*Xylomyges eridania*): This insect has developed into a serious enemy of agriculture in Florida within the last few years and although complete studies of its habits and enemies have not yet been made, it has been learned that birds including the Bobwhite, Boat-tailed Grackle, Meadowlark, Bobolink and Loggerhead Shrike feed upon it to a very noticeable extent.[2]

Earwig (*Forficula auricularia*): This species which has been introduced into Rhode Island where it has become numerous, spread and done considerable damage is treated in an article by an English author who has collected[3] the records of its capture by British wild birds. Summing them up he finds that 13 species of birds are known to have captured earwigs, most of them sparingly. Similarly there are only a few records of American birds eating these insects but in considering such cases there should be kept in mind the proportion these small groups bear to all of the food available to birds. The earwigs are a very insignificant part of the insect fauna of either England or the United States and no surprise should be felt, therefore, that they are not more often eaten by birds.—W. L. M.

The Bird Interest in Iowa Lakes.—A report valuable not only for its findings and recommendations, but especially as a voucher of deep public interest in the subject, is that upon Iowa Lakes and Lake Beds by the State Highway Commission. (250 pp. 1917.) In the first place it is most encouraging to note that in nine-tenths or more of the cases retention and improvement of the lakes is recommended. The Commission has wisely resisted clamor by drainage advocates and considering the rights of the entire public has in consequence adopted a policy of conservation. In nearly every case, the report states, in which the drainage of a lake has been petitioned, the great damage caused to crops by blackbirds which congregate in the vicinity of the lake has been set forth as one of the principal reasons why drainage was desired. A careful field investigation of these depredations was made by the State Agricultural Experiment Station and the following conclusions reached: (1) Slight damage is done to sprouting corn and that in very limited areas near nesting colonies of birds; (2) Damage to small grains is confined to the season they are in shock, is serious only when the shocks are left exposed a long time, and is restricted to small areas near groves, sloughs

[1] Hess, Walter N., Mem. 33, Cornell Univ. Agr. Exp. Sta., May, 1920, p. 379.
[2] Berger, E. W. Quart. Bul. State Plant Bd. Fla., Vol. 4, No. 2, Jan. 1920 pp. 27–28.
[3] Brindley, H. H., Proc. Cambridge Phil. Soc., Vol. 19, 1918, pp. 175–177.

or patches of sunflowers. Within territory one mile from a lake this damage does not average more than one dollar per acre; (3) The amount of damage done to corn in the milk varies as the distance of the field from a lake, slough or grove. On farms within half of a mile of a lake about 13 per cent. of the ears were damaged, on farms from a half mile to two miles distant, 5 per cent, and on those more than two miles about one and a half per cent. The average loss on farms of the first group is about four cents per acre. The greatest damage per acre disclosed by the survey was $17.00, and this in only one instance. Accompanying the report on field investigation is one on the contents of the stomach of 43 Red-winged and 16 Yellow-headed Blackbirds from analyses made by the Biological Survey. Twenty-six per cent of the food of the former birds and 2.7% of the latter consisted of corn. In summing up the relations of lakes, bird pests and the public it appears highly preferable that direct control measures be applied to the injurious species rather than that the lakes be drained, for the latter are not only of great value as recreation places, but also are the center of abundance of numerous species of wild birds, including valuable game birds entirely dependent upon the presence of the lakes.

In general the report reviewed gives proper weight to the hunting interests, but the suggestion is repeated in many places that water-levels must be raised to discourage dense growths of water lilies, of cat-tails, rushes and of marsh as a whole. In this connection it should be kept in mind that marsh is absolutely necessary for practically all the birds which are attracted by the lakes. It is their breeding home and no matter how desirable it may be to boating or fishing interests to have more deep, clear water, the marsh must not be sacrificed or the whole value of lake conservation from the wild life standpoint will be lost.

The report includes a useful report on the vegetation of the lakes, from which a clear idea as to their wildfowl food resources can be drawn. This part of the report is unexceptionable except for insistence on the point just alluded to, namely suppression of marsh. If the demands for recreation places cannot be compromised with the necessities of wild life, it would seem necessary to assign the lakes definitely to the one purpose or the other and treat them accordingly. While saving lakes from drainage is a conservation measure, wild life will suffer practically as much from elimination of marshes as it would from drainage. In view of the advanced attitude it has already taken on the subject of lake conservation there would seem little doubt but that the State Commission will give full weight to the interests of wild life when properly presented.—W. L. M.

Bird Liming in Lower Egypt.—An interesting paper[1] with this title is here somewhat belatedly reviewed and occasion taken to present

[1] Ministry of Public Works, Zoological Service Publ. No. 28, 1919, 9 pp.